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Miao, Gou-Hau  
Powell, Wayne

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<213> Zea mays

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Tyr Leu Thr Gly Glu Arg Ser Pro Arg Ala Leu Arg Leu Thr Ala Glu  
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Ala Ile Glu Leu Asn Pro Gly Asn Tyr Thr Val Trp His Phe Arg Arg  
 65 70 75 80

Leu Ile Leu Glu Ser Leu Asp Phe Asp Leu Leu Glu Glu Met Lys Phe  
 85 90 95

Val Glu Lys Ile Ala Glu Cys Asn Pro Lys Asn Tyr Gln Ile Trp His  
 100 105 110

His Lys Arg Trp Leu Ala Glu Lys Leu Gly Pro Gly Ile Ala Asn Lys  
 115 120 125

Glu His Glu Phe Thr Met Lys Ile Leu Ala Ile Asp Ala Lys Asn Tyr  
 130 135 140

His Ala Trp Ser His Arg Gln Trp Val Leu Gln Ala Leu Gly Gly Trp  
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Glu Thr Glu Leu Glu Tyr Cys Asp His Leu Leu Lys Glu Asp Val Phe  
 165 170 175

Asn Asn Ser Ala Trp Asn Gln Arg Tyr Phe Val Ile Thr Arg Ser Pro  
 180 185 190

Phe Leu Gly Gly Leu Ala Ala Met Arg Asp Ser Glu Val Asp Tyr Thr  
 195 200 205

Ile Glu Ala Ile Leu Ala Asn Ala Gln Asn Glu Ser Pro Trp Arg Tyr  
 210 215 220

Leu Lys Gly Leu Tyr Lys Gly Glu Asn Asn Leu Leu Val Glu Asp Glu  
 225 230 235 240

Arg Ile Ser Ala Val Cys Phe Lys Val Leu Lys Asn Asp Trp Thr Cys  
 245 250 255

Val Phe Ala Leu Ser Leu Leu Asp Leu Leu Cys Thr Gly Leu Gln  
 260 265 270

Pro Ser Asp Glu Leu Arg Ser Thr Leu Glu Thr Ile Arg Ser Ser His  
 275 280 285

Pro Glu Thr Ala Asp Asp Pro Ala Ala Val Cys Cys Ile Leu  
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<212> PRT

<213> Oryza sativa

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35 40 45

Arg Glu Val Met Asp Tyr Phe Arg Ala Leu Tyr Phe Ala Gly Glu Arg  
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Ser Val Arg Ala Leu His Leu Thr Ala Glu Val Ile Asp Leu Asn Pro  
65 70 75 80

Gly Asn Tyr Thr Val Trp His Phe Arg Arg Leu Val Leu Glu Ala Leu  
85 90 95

Asp Ala Asp Leu Arg Glu Glu Met Asp Phe Val Asp Arg Ile Ala Glu  
100 105 110

Cys Asn Pro Lys Asn Tyr Gln Ile Trp His His Lys Arg Trp Leu Ala  
115 120 125

Glu Lys Leu Gly Pro Asp Ile Ala Asn Lys Glu His Glu Phe Thr Arg  
130 135 140

Lys Ile Leu Ser Met Asp Ala Lys Asn Tyr His Ala Trp Ser His Arg  
145 150 155 160

Gln Trp Val Leu Gln Ala Leu Gly Gly Trp Glu Thr Glu Leu Gln Tyr  
 165 170 175  
 Cys Asn Gln Leu Leu Glu Glu Asp Val Phe Asn Asn Ser Ala Trp Asn  
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 Gln Arg Tyr Leu Val Ile Thr Ser Ser Pro Leu Leu Gly Gly Leu Ala  
 195 200 205  
 Ala Met Arg Asp Ser Glu Val Asp Tyr Thr Val Gly Ala Ile Leu Ala  
 210 215 220  
 Asn Pro Gln Asn Glu Ser Pro Trp Arg Tyr Leu Lys Gly Leu Tyr Lys  
 225 230 235 240  
 Gly Glu Asn Asn Leu Leu Met Ala Asp Glu Arg Ile Ser Asp Val Cys  
 245 250 255  
 Leu Lys Val Leu Lys His Asp Ser Thr Cys Val Phe Ala Leu Ser Leu  
 260 265 270  
 Leu Leu Asp Leu Leu Gln Ile Gly Leu Gln Pro Ser Asp Glu Leu Lys  
 275 280 285  
 Gly Thr Ile Glu Ala Ile Lys Asn Ser Asp Pro Glu Ala Asp Glu Ala  
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 Val Asp Ala Asp Leu Ala Thr Ala Ile Cys Ser Ile Leu Gln Arg Cys  
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Asp Gly Pro Asn Pro Val Val Pro Ile Gln Tyr Thr Glu Glu Phe Ser  
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Glu Val Met Asp Tyr Phe Arg Ala Val Tyr Leu Thr Asp Glu Arg Ser  
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Pro Arg Ala Leu Ala Leu Thr Ala Glu Ala Val Gln Phe Asn Ser Gly  
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Asn Tyr Thr Val Trp His Phe Arg Arg Leu Leu Leu Glu Ser Leu Lys  
85 90 95  
  
Val Asp Leu Asn Asp Glu Leu Asp Phe Val Glu Arg Met Ala Ala Gly  
100 105 110  
  
Asn Ser Lys Asn Tyr Gln Met Trp His His Arg Arg Trp Val Ala Glu  
115 120 125  
  
Lys Leu Gly Pro Glu Ala Arg Asn Asn Glu Leu Glu Phe Thr Lys Lys  
130 135 140  
  
Ile Leu Ser Val Asp Ala Lys His Tyr His Ala Trp Ser His Arg Gln  
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Trp Ala Leu Gln Thr Leu Gly Gly Trp Glu Asp Glu Leu Asn Tyr Cys  
165 170 175  
  
Thr Glu Leu Leu Lys Glu Asp Ile Phe Asn Asn Ser Ala Trp Asn Gln  
180 185 190  
  
Arg Tyr Phe Val Ile Thr Arg Ser Pro Phe Leu Gly Gly Leu Lys Ala  
195 200 205  
  
Met Arg Glu Ser Glu Val Leu Tyr Thr Ile Glu Ala Ile Ile Ala Tyr  
210 215 220  
  
Pro Glu Asn Glu Ser Ser Trp Arg Tyr Leu Arg Gly Leu Tyr Lys Gly  
225 230 235 240  
  
Glu Thr Thr Ser Trp Val Asn Asp Pro Gln Val Ser Ser Val Cys Leu  
245 250 255  
  
Lys Ile Leu Arg Thr Lys Ser Asn Tyr Val Phe Ala Leu Ser Thr Ile  
260 265 270

Leu Asp Leu Ile Cys Phe Gly Tyr Gln Pro Asn Glu Asp Ile Arg Asp  
275 280 285

Ala Ile Asp Ala Leu Lys Thr Ala Asp Met Asp Lys Gln Asp Leu Asp  
290 295 300

Asp Asp Glu Lys Gly Glu Gln Gln Asn Leu Asn Ile Ala Arg Asn Ile  
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35 40 45

Glu Val Met Asp Tyr Phe Arg Ala Val Tyr Leu Thr Asp Glu Arg Ser  
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Pro Arg Ala Leu Ala Leu Thr Ala Glu Ala Val Gln Phe Asn Ser Gly  
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Asn Tyr Thr Val Trp His Phe Arg Arg Leu Leu Leu Glu Ser Leu Lys  
       85                 90                 95

Val Asp Leu Asn Asp Glu Leu Glu Phe Val Glu Arg Met Ala Ala Gly  
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Asn Ser Lys Asn Tyr Gln Met Trp Cys Asp Ala Leu Leu Cys Ser Phe  
       115                120                125

Phe His Thr Leu His His Arg Arg Trp Val Ala Glu Lys Leu Gly Pro  
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Glu Ala Arg Asn Asn Glu Leu Glu Phe Thr Lys Lys Ile Leu Ser Val  
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Asp Ala Lys His Tyr His Ala Trp Ser His Arg Gln Trp Ala Leu Gln  
       165                170                175

Thr Leu Gly Gly Trp Glu Asp Glu Leu Asn Tyr Cys Thr Glu Leu Leu  
       180                185                190

Lys Glu Asp Ile Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr Phe Val  
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Ile Thr Arg Ser Pro Phe Leu Gly Gly Leu Lys Ala Met Arg Glu Ser  
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Glu Val Leu Tyr Thr Ile Glu Ala Ile Ile Ala Tyr Pro Glu Asn Glu  
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Ser Ser Trp Arg Tyr Leu Arg Gly Leu Tyr Lys Gly Glu Thr Thr Ser  
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Trp Val Asn Asp Pro Gln Val Ser Ser Val Cys Leu Lys Ile Leu Arg  
       260                265                270

Thr Lys Ser Asn Tyr Val Phe Ala Leu Ser Thr Ile Leu Asp Leu Ile  
       275                280                285

Cys Phe Gly Tyr Gln Pro Asn Glu Asp Ile Arg Asp Ala Ile Asp Ala  
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Leu Lys Thr Ala Asp Met Asp Lys Gln Asp Leu Asp Asp Asp Glu Lys  
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Gly Glu Gln Gln Asn Leu Asn Ile Ala Arg Asn Ile Cys Ser Ile Leu  
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35 40 45

Asp Ala Ile His Leu Asn Pro Gly Asn Tyr Thr Val Trp His Phe Arg  
50 55 60

Arg Val Val Leu Glu Ala Leu Asp Ala Asp Leu Leu Leu Glu Met His  
65 70 75 80

Phe Val Asp Gln Ile Ala Glu Ser Asn Pro Lys Asn Tyr Gln Val Trp  
85 90 95

His His Lys Arg Trp Leu Ala Glu Lys Ile Gly Pro Asp Ala Ala Asn  
100 105 110

Ser Glu His Asp Phe Thr Arg Lys Ile Leu Ala Met Asp Ala Lys Asn  
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Tyr His Ala Trp Ser His Arg Gln Trp Val Leu Gln Ala Leu Gly Gly  
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Trp Glu Ser Glu Leu Gln Tyr Cys Asn Gln Leu Leu Glu Glu Asp Val  
145 150 155 160  
Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr Leu Val Val Thr Arg Ser  
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Pro Ile Leu Gly Gly Leu Ala Ala Met Arg Asp Ser Glu Val Val Asp Tyr  
180 185 190  
Thr Val Glu Ala Ile Met Val Asn Pro Gln Asn Glu Ser Pro Trp Arg  
195 200 205  
Tyr Leu Arg Gly Leu Tyr Lys Asp Asp Asn Asn Leu Leu Val Ala Asp  
210 215 220  
Asn Arg Ile Ser Asp Ala Cys Leu Lys Val Leu Asn Lys Asp Trp Thr  
225 230 235 240  
Cys Val Phe Ala Leu Ser Phe Leu Leu Asp Leu Leu Arg Met Gly Leu  
245 250 255  
Gln Pro Ser Asn Glu Leu Lys Gly Thr Ile Glu Ala Met Glu Asn Ser  
260 265 270  
Asp Pro Glu Thr Gly His Ala Asp Ile Ala Val Ala Val Cys Ser Ile  
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 35 40 45

Gly Ala Ala Pro Asn Thr Lys Ser Ile Met Leu Glu Leu Trp Arg Asp  
 50 55 60

Gln His Ile Glu Tyr Leu Thr Pro Gly Leu Arg His Met Gly Pro Ala  
 65 70 75 80

Phe His Val Leu Asp Ala Asn Arg Pro Trp Leu Cys Tyr Trp Met Val  
 85 90 95

His Pro Leu Ala Leu Leu Asp Glu Ala Leu Asp Asp Asp Leu Glu Asn  
 100 105 110

Asp Ile Ile Asp Phe Leu Ala Arg Cys Gln Asp Lys Asp Gly Gly Tyr  
 115 120 125

Ser Gly Gly Pro Gly Gln Leu Pro His Leu Ala Thr Thr Tyr Ala Ala  
 130 135 140

Val Asn Thr Leu Val Thr Ile Gly Ser Glu Arg Ala Leu Ser Ser Ile  
 145 150 155 160

Asn Arg Gly Asn Leu Tyr Asn Phe Met Leu Gln Met Lys Asp Val Ser  
 165 170 175

Gly Ala Phe Arg Met His Asp Gly Gly Glu Ile Asp Val Arg Ala Ser  
 180 185 190

Tyr Thr Ala Ile Ser Val Ala Ser Leu Val Asn Ile Leu Asp Phe Lys  
 195 200 205

Leu Ala Lys Gly Val Gly Asp Tyr Ile Ala Arg Cys Gln Thr Tyr Glu  
 210 215 220

Gly Gly Ile Ala Gly Glu Pro Tyr Ala Glu Ala His Gly Gly Tyr Thr  
 225 230 235 240

Phe Cys Gly Leu Ala Ala Leu Ile Leu Asn Glu Ala Glu Lys Val  
 245 250 255

Asp Leu Pro Ser Leu Ile Gly Trp Val Ala Phe Arg Gln Gly Val Glu  
 260 265 270

Cys Gly Phe Gln Gly Arg Thr Asn Lys Leu Val Asp Gly Cys Tyr Ser

275

280

285

Phe Trp Gln Gly Ala Ala Ile Ala Phe Thr Gln Lys Leu Ile Thr Ile  
290 295 300

290

295

300

Val Asp Lys Gln Leu Lys Ser Ser Tyr Ser Cys Lys Arg Pro Ser Gly  
305 310 315 320

Val

Lys

Cys

Gly

Glu Asp Ala Cys Ser Thr Ser Ser Tyr Gly Cys Thr Ala Lys Lys Ser  
 325 330 335

Ser Ser Ala Val Asp Tyr Ala Lys Phe Gly Phe Asp Phe Ile Gln Gln  
340 345 350

Ser Asn Gln Ile Gly Pro Leu Phe His Asn Ile Ala Leu Gln Gln Tyr  
355 360 365

Ile Leu Leu Cys Ser Gln Val Leu Glu Gly Gly Leu Arg Asp Lys Pro  
370 375 380

Gly Lys Asn Arg Asp His Tyr His Ser Cys Tyr Cys Leu Ser Gly Leu  
385                   390                   395                   400

Ala Val Ser Gln Tyr Ser Ala Met Thr Asp Thr Gly Ser Cys Pro Leu  
405 410 415

Pro Gln His Val Leu Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His  
420 425 430

Pro Leu Tyr Asn Val Val Leu Asp Lys Tyr His Thr Ala Tyr Glu Phe  
435 440 445

Phe Ser Glu Glu  
450

<210> 13  
<211> 1031  
<212> DNA  
<213> Oryza sativa

<400> 13  
gcacgagggc gtagccgcct ttccgtgaga tccccgcggc tgcaagcgagc tcgcaggccc 60  
ccgccttcgg cggccggcggac caccgcgccc atggacccccc cctcgccggcc gccgcccggc 120  
ccatatccctc ctgctgctgc tgagggcggt ccggcagcgat agccaggc cgctgagctg 180  
ccccggctga ctgtgacgca ggtggagcag atgaagggtgg aggcgaaggt gggcggaaatc 240  
taccgcgtcc tcttcggcaa cgccggccaaac gccaattttcc tcatagtttaga gctgtggcgt 300  
gagcagcatg tttagtattt gacgagaggg ctgaaaacatc ttggaccaag cttccatgtg 360  
ctcgatgcca atcgaccttg gctgtgtac tggattttc atgcacttgc tctgttggat 420  
gaaataacctg acgatgttga ggatgatatt gtggacttct tatctcgatg tcaggacaaa 480  
gatggtggtt atggcggagg acctggacag ttgcctcatc tcgctacaac ttatgctgct 540  
gtaaaatcac ttgttaactat agggagtgaa agggcactat catcggtaaa cagggacaac 600  
ctgtacaagt tcatacgatc gatgaaagat acatcgggag ctttcagaat gcatgatggt 660  
ggtaaatag atgttcgtgc tagctatact gcaatatcggttgcgcct tggtaacatt 720  
cttgcgtgtt aactagcaaa aggtgttggaa aattacataa caagggtgtca aacctatgaa 780  
ggtgtgcattt ctggggaaacc gtatgtgaa gctcatggtg ggtacacttt ttgtggcgt 840  
gctacgtatgtatcgtttaa cgaagtggac aaacttgatt tggctagctt gattggctgg 900  
gtggcatttc gccaaggagt ggaatgtgga tttcaaggac gaactaataa attgggttcat 960  
ggttgtact ccttttggca gggagctgctt cttgtttttaa ctgttcaccg cgtggcggcc 1020  
actgccaac g 1031

<210> 14

<211> 313  
<212> PRT  
<213> Oryza sativa

<400> 14  
Met Asp Pro Pro Ser Pro Pro Pro Pro Pro Tyr Pro Pro Ala Ala  
1 5 10 15  
Ala Glu Gly Gly Pro Ala Ala Asp Ser Gln Ala Ala Glu Leu Pro Arg  
20 25 30  
Leu Thr Val Thr Gln Val Glu Gln Met Lys Val Glu Ala Lys Val Gly  
35 40 45  
Glu Ile Tyr Arg Val Leu Phe Gly Asn Ala Pro Asn Ala Asn Ser Leu  
50 55 60  
Met-Leu Glu Leu Trp Arg Glu Gln His Val Glu Tyr Leu Thr Arg Gly  
65 70 75 80  
Leu Lys His Leu Gly Pro Ser Phe His Val Leu Asp Ala Asn Arg Pro  
85 90 95  
Trp Leu Cys Tyr Trp Ile Ile His Ala Leu Ala Leu Asp Glu Ile  
100 105 110  
Pro Asp Asp Val Glu Asp Asp Ile Val Asp Phe Leu Ser Arg Cys Gln  
115 120 125  
Asp Lys Asp Gly Gly Tyr Gly Gly Pro Gly Gln Leu Pro His Leu  
130 135 140  
Ala Thr Thr Tyr Ala Ala Val Asn Thr Leu Val Thr Ile Gly Ser Glu  
145 150 155 160  
Arg Ala Leu Ser Ser Val Asn Arg Asp Asn Leu Tyr Lys Phe Met Leu  
165 170 175  
Arg Met Lys Asp Thr Ser Gly Ala Phe Arg Met His Asp Gly Gly Glu  
180 185 190  
Ile Asp Val Arg Ala Ser Tyr Thr Ala Ile Ser Val Ala Ser Leu Val  
195 200 205  
Asn Ile Leu Asp Gly Glu Leu Ala Lys Gly Val Gly Asn Tyr Ile Thr  
210 215 220  
Arg Cys Gln Thr Tyr Glu Gly Gly Ile Ala Gly Glu Pro Tyr Ala Glu  
225 230 235 240  
Ala His Gly Gly Tyr Thr Phe Cys Gly Leu Ala Thr Met Ile Leu Leu  
245 250 255  
Asn Glu Val Asp Lys Leu Asp Leu Ala Ser Leu Ile Gly Trp Val Ala  
260 265 270  
Phe Arg Gln Gly Val Glu Cys Gly Phe Gln Gly Arg Thr Asn Lys Leu  
275 280 285  
Val Asp Gly Cys Tyr Ser Phe Trp Gln Gly Ala Ala Leu Ala Leu Thr  
290 295 300

Val His Arg Val Ala Pro Thr Ala Lys  
305 310

<210> 15  
<211> 1504  
<212> DNA  
<213> Glycine max

<400> 15  
gcacgaggac aaatccgccc cgcggccgc cgtgtccgac ggtgagtc aa cgtgagcaat 60  
ggatggtaga gtgcgcagggt tttcagattt accaactctt cgccaccatt cctcgcaacg 120  
cccaaaccct catgttggag cttcaacgcg ataatcacat gcagtatgtc tccaaaggcc 180  
ttcgccatct cagttccgca ttttccggtt tggacgctaa tcgaccctgg ctctgctact 240  
ggatcttcca ctccattgtc ttgtcgggag aatccgtcga tgatgaactc gaagataacg 300  
ctatcgattt tcttaaccgt tgccaggatc cgaatgggtt atatgccggg ggaccaggcc 360  
agatgcctca tattgccaca acttatgtcgt ctgttaattt acttattact ttgggtgggt 420  
agaaaatccct ggcataatt aatagagata aactgtatgg gtttctgccc cgatgaagc 480  
aaccaaattgg tggattcagg atgcattgt aaggtgaaat tgatgtcga gcttgctaca 540  
ctgccatttc tggttgcagaat gtttgaaca ttttggatga tgagctgatc cagaatgtt 600  
gagactacat tataagctgt caaacatatg agggtggcat tgctgggtgag cctgggtctg 660  
aggctcatgg tgggtacacc ttttggatgat tagtacaat gattctgatt ggtgagggtt 720  
atcaatttgc tctgcctcga ttagttgact ggggttgtt ccgacaaggta aaggaatgtg 780  
gattccaggg gagaacaaat aaactgggtt atggatgcta ttccctttgg cagggagggt 840  
ctgttgcattt attgcaaaaga ttatcttcta ttatcaacaa acagatggaa gagacatcac 900  
agattttgc ggtatctt gatatgttcaaaagaaat ttggatgga acctctagtc 960  
atgcacatg ccgtgggtgag catgaaggca ccagtgaatc cagttcatct gattttaaaa 1020  
atattgccta taaatttattt aatgagtgtt gggcacaaga accactttt cacagtattt 1080  
ctttacagca atatatttctc ttatgtgcac aggagcaaga ggggtggactg agagacaaac 1140  
cgggttaaacg tagagatcat tatcacacat gttactgtt aagtggactc tcattgtgcc 1200  
agtatagttt gtcaaaagcac ccagattctc caccactgcc taatcttagt ttagggccct 1260  
actctaattt ctttagaaacca atccaccccc tctttatgt tgcattggaa cgatatcggt 1320  
aagctcatga attcttctt actgagtcgtt gaccactgtt tttagctacc aacaacttta 1380  
tttgtataat gtaaaataaa ttcatggaa catataaatg taaaacagca ttggattaaa 1440  
aaaaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500  
aaaaa 1504

<210> 16  
<211> 429  
<212> PRT  
<213> Glycine max

<400> 16  
Met Val Glu Ser Gln Val Phe Gln Ile Tyr Gln Leu Phe Ala Thr Ile  
1 5 10 15

Pro Arg Asn Ala Gln Thr Leu Met Leu Glu Leu Gln Arg Asp Asn His  
20 25 30

Met Gln Tyr Val Ser Lys Gly Leu Arg His Leu Ser Ser Ala Phe Ser  
35 40 45

Val Leu Asp Ala Asn Arg Pro Trp Leu Cys Tyr Trp Ile Phe His Ser  
50 55 60

Ile Ala Leu Ser Gly Glu Ser Val Asp Asp Glu Leu Glu Asp Asn Ala  
65 70 75 80

Ile Asp Phe Leu Asn Arg Cys Gln Asp Pro Asn Gly Gly Tyr Ala Gly  
85 90 95

Gly Pro Gly Gln Met Pro His Ile Ala Thr Thr Tyr Ala Ala Val Asn  
           100                     105                     110  
 Ser Leu Ile Thr Leu Gly Gly Glu Lys Ser Leu Ala Ser Ile Asn Arg  
           115                     120                     125  
 Asp Lys Leu Tyr Gly Phe Leu Arg Arg Met Lys Gln Pro Asn Gly Gly  
           130                     135                     140  
 Phe Arg Met His Asp Glu Gly Glu Ile Asp Val Arg Ala Cys Tyr Thr  
           145                     150                     155                     160  
 Ala Ile Ser Val Ala Ser Val Leu Asn Ile Leu Asp Asp Glu Leu Ile  
           165                     170                     175  
 Gln Asn Val Gly Asp Tyr Ile Ile Ser Cys Gln Thr Tyr Glu Gly Gly  
           180                     185                     190  
 Ile Ala Gly Glu Pro Gly Ser Glu Ala His Gly Gly Tyr Thr Phe Cys  
           195                     200                     205  
 Gly Leu Ala Thr Met Ile Leu Ile Gly Glu Val Asn His Leu Asp Leu  
           210                     215                     220  
 Pro Arg Leu Val Asp Trp Val Val Phe Arg Gln Gly Lys Glu Cys Gly  
           225                     230                     235                     240  
 Phe Gln Gly Arg Thr Asn Lys Leu Val Asp Gly Cys Tyr Ser Phe Trp  
           245                     250                     255  
 Gln Gly Gly Ala Val Ala Leu Leu Gln Arg Leu Ser Ser Ile Ile Asn  
           260                     265                     270  
 Lys Gln Met Glu Glu Thr Ser Gln Ile Phe Ala Val Ser Tyr Val Ser  
           275                     280                     285  
 Glu Ala Lys Glu Ser Leu Asp Gly Thr Ser Ser His Ala Thr Cys Arg  
           290                     295                     300  
 Gly Glu His Glu Gly Thr Ser Glu Ser Ser Ser Asp Phe Lys Asn  
           305                     310                     315                     320  
 Ile Ala Tyr Lys Phe Ile Asn Glu Trp Arg Ala Gln Glu Pro Leu Phe  
           325                     330                     335  
 His Ser Ile Ala Leu Gln Gln Tyr Ile Leu Leu Cys Ala Gln Glu Gln  
           340                     345                     350  
 Glu Gly Gly Leu Arg Asp Lys Pro Gly Lys Arg Arg Asp His Tyr His  
           355                     360                     365  
 Thr Cys Tyr Cys Leu Ser Gly Leu Ser Leu Cys Gln Tyr Ser Trp Ser  
           370                     375                     380  
 Lys His Pro Asp Ser Pro Pro Leu Pro Asn Leu Val Leu Gly Pro Tyr  
           385                     390                     395                     400  
 Ser Asn Leu Leu Glu Pro Ile His Pro Leu Phe Asn Val Val Leu Gly  
           405                     410                     415  
 Arg Tyr Arg Glu Ala His Glu Phe Phe Phe Thr Glu Ser

420

425

<210> 17  
<211> 533  
<212> DNA  
<213> Glycine max

<220>  
<221> unsure  
<222> (499)  
<223> n = A, C, G or T

<220>  
<221> unsure  
<222> (525)  
<223> n = A, C, G or T

<400> 17

gagagagata cgaatccggc ggccggcgcca ccgtgtccga cggtgagtca acgggaccag 60  
tggatggtag agtcgcagg tttcagatt taccaactct ttgccaccat tcctggcagc 120  
gcccaaaacc tcatgttaga gctgcaacgc gataatcaca tgcaatgtatct ctccaaaggc 180  
ctacgccatc tcagttccgc gtttctgtc ttggacgcta atcgaccctg gctctgttac 240  
tggatcttcc attccattgc tttgctggga gaatccgtcg acgacgaact cgaagataac 300  
actatcgatt ttcttaaccg ttgcccaggat ccgaatggtg gatatgctgg gggaccaggc 360  
cagatgcctc acattgccac aacatatgtc gcagttata cacttattac tttgggttgt 420  
cagaaatcct ggcatcaatt aataggtgag ataaactgtta tgggtttctg cggccgatga 480  
agcaatcaa tggggggant caagatgcat gatgaaagga gaaanttgat gtc 533

<210> 18  
<211> 141  
<212> PRT  
<213> Glycine max

<400> 18

Asp Thr Asn Pro Ala Ala Ala Pro Pro Cys Pro Thr Val Ser Gln Arg  
1 5 10 15

Asp Gln Trp Met Val Glu Ser Gln Val Phe Gln Ile Tyr Gln Leu Phe  
20 25 30

Ala Thr Ile Pro Gly Ser Ala Gln Asn Leu Met Leu Glu Leu Gln Arg  
35 40 45

Asp Asn His Met Gln Tyr Leu Ser Lys Gly Leu Arg His Leu Ser Ser  
50 55 60

Ala Phe Ser Val Leu Asp Ala Asn Arg Pro Trp Leu Cys Tyr Trp Ile  
65 70 75 80

Phe His Ser Ile Ala Leu Leu Gly Glu Ser Val Asp Asp Glu Leu Glu  
85 90 95

Asp Asn Thr Ile Asp Phe Leu Asn Arg Cys Gln Asp Pro Asn Gly Gly  
100 105 110

Tyr Ala Gly Gly Pro Gly Gln Met Pro His Ile Ala Thr Thr Tyr Ala  
115 120 125

Ala Val Asn Thr Leu Ile Thr Leu Gly Gly Gln Lys Ser  
130 135 140

<210> 19  
 <211> 333  
 <212> PRT  
 <213> Pisum sativum

<400> 19  
 Met Ala Gly Asn Ile Glu Val Glu Glu Asp Asp Arg Val Pro Leu Arg  
   1               5               10               15

Leu Arg Pro Glu Trp Ser Asp Val Thr Pro Ile Pro Gln Asp Asp Gly  
   20              25              30

Pro Ser Pro Val Val Pro Ile Asn Tyr Ser Glu Glu Phe Ser Glu Val  
   35              40              45

Met Asp Tyr Phe Arg Ala Val Tyr Phe Ala Lys Glu Leu Ser Ser Arg  
   50              55              60

Ala Leu Ala Leu Thr Ala Glu Ala Ile Gly Leu Asn Ala Gly Asn Tyr  
   65              70              75              80

Thr Val Trp His Phe Arg Arg Leu Leu Leu Glu Ser Leu Lys Val Asp  
   85              90              95

Leu His Val Glu Arg Glu Phe Val Glu Arg Val Ala Ser Gly Asn Ser  
   100             105             110

Lys Asn Tyr Gln Ile Trp His His Arg Arg Trp Val Ala Glu Lys Leu  
   115             120             125

Gly Pro Glu Ala Arg Asn Ser Glu Leu Glu Phe Thr Lys Lys Ile Leu  
   130             135             140

Ser Val Asp Ala Lys His Tyr His Ala Trp Ser His Arg Gln Trp Val  
   145             150             155             160

Leu Gln Asn Leu Gly Gly Trp Glu Asp Glu Leu Ser Tyr Cys Ser Glu  
   165             170             175

Leu Leu Ala Glu Asp Ile Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr  
   180             185             190

Phe Val Ile Thr Arg Ser Pro Val Leu Gly Gly Leu Lys Ala Met Arg  
   195             200             205

Glu Ser Glu Val Leu Phe Thr Val Glu Ala Ile Ile Ser Tyr Pro Glu  
   210             215             220

Asn Glu Ser Ser Trp Arg Tyr Leu Arg Gly Leu Phe Lys Asp Glu Ser  
   225             230             235             240

Thr Leu Tyr Val Asn Asp Ala Gln Val Ser Ser Leu Cys Leu Lys Ile  
   245             250             255

Leu Lys Thr Lys Ser Asn Tyr Leu Phe Ala Leu Ser Thr Leu Leu Asp  
   260             265             270

Leu Ser Ala Ser Val Ile Gln Pro Asn Glu Asp Phe Arg Asp Ala Ile  
   275             280             285

Glu Ala Leu Arg Leu Gln Ile Leu Ile Lys Gln Asp Ser Asp Ile Ala

290	295	300	
Ile Thr Ile Cys Ser Ile Leu Glu Gln Val Asp Pro Ile Arg Val Asn 305	310	315	320
Tyr Trp Val Trp Arg Lys Ser Arg Leu Pro Gln Ala Ala 325	330		
<210> 20			
<211> 326			
<212> PRT			
<213> Arabidopsis thaliana			
<400> 20			
Met Asn Phe Asp Glu Thr Val Pro Leu Ser Gln Arg Leu Glu Trp Ser 1	5	10	15
Asp Val Val Pro Leu Thr Gln Asp Asp Gly Pro Asn Pro Val Val Pro 20	25	30	
Ile Ala Tyr Lys Glu Glu Phe Arg Glu Thr Met Asp Tyr Phe Arg Ala 35	40	45	
Ile Tyr Phe Ser Asp Glu Arg Ser Pro Arg Ala Leu Arg Leu Thr Glu 50	55	60	
Glu Thr Leu Leu Leu Asn Ser Gly Asn Tyr Thr Val Trp His Phe Arg 65	70	75	80
Arg Leu Val Leu Glu Ala Leu Asn His Asp Leu Phe Glu Glu Leu Glu 85	90	95	
Phe Ile Glu Arg Ile Ala Glu Asp Asn Ser Lys Asn Tyr Gln Leu Trp 100	105	110	
His His Arg Arg Trp Val Ala Glu Lys Leu Gly Pro Asp Val Ala Gly 115	120	125	
Arg Glu Leu Glu Phe Thr Arg Arg Val Leu Ser Leu Asp Ala Lys His 130	135	140	
Tyr His Ala Trp Ser His Arg Gln Trp Thr Leu Arg Ala Leu Gly Gly 145	150	155	160
Trp Glu Asp Glu Leu Asp Tyr Cys His Glu Leu Leu Glu Ala Asp Val 165	170	175	
Phe Asn Asn Ser Ala Trp Asn Gln Arg Tyr Tyr Val Ile Thr Gln Ser 180	185	190	
Pro Leu Leu Gly Gly Leu Glu Ala Met Arg Glu Ser Glu Val Ser Tyr 195	200	205	
Thr Ile Lys Ala Ile Leu Thr Asn Pro Ala Asn Glu Ser Ser Trp Arg 210	215	220	
Tyr Leu Lys Ala Leu Tyr Lys Asp Asp Lys Glu Ser Trp Ile Ser Asp 225	230	235	240
Pro Ser Val Ser Ser Val Cys Leu Asn Val Leu Ser Arg Thr Asp Cys 245	250	255	

Phe His Gly Phe Ala Leu Ser Thr Leu Leu Asp Leu Leu Cys Asp Gly  
                  260                 265                 270  
  
 Leu Arg Pro Thr Asn Glu His Lys Asp Ser Val Arg Ala Leu Ala Asn  
                  275                 280                 285  
  
 Glu Glu Pro Glu Thr Asn Leu Ala Asn Leu Val Cys Thr Ile Leu Gly  
                  290                 295                 300  
  
 Arg Val Asp Pro Ile Arg Ala Asn Tyr Trp Ala Trp Arg Lys Ser Lys  
                  305                 310                 315                 320  
  
 Ile Thr Val Ala Ala Ile  
                  325  
  
 <210> 21  
 <211> 470  
 <212> PRT  
 <213> Lycopersicon esculentum  
  
 <400> 21  
 Met Glu Ser Arg Lys Val Thr Lys Thr Leu Glu Asp Gln Trp Val Val  
       1                 5                 10                 15  
  
 Glu Arg Arg Val Arg Glu Ile Tyr Asp Tyr Phe Tyr Ser Ile Ser Pro  
       20                 25                 30  
  
 Asn Ser Pro Ser Asp Leu Ile Glu Ile Glu Arg Asp Lys His Phe Gly  
       35                 40                 45  
  
 Tyr Leu Ser Gln Gly Leu Arg Lys Leu Gly Pro Ser Phe Ser Val Leu  
       50                 55                 60  
  
 Asp Ala Ser Arg Pro Trp Leu Cys Tyr Trp Thr Leu His Ser Ile Ala  
       65                 70                 75                 80  
  
 Leu Leu Gly Glu Ser Ile Gly Lys Leu Glu Asn Asp Ala Ile Asp  
       85                 90                 95  
  
 Phe Leu Thr Arg Cys Gln Asp Lys Asp Gly Gly Tyr Gly Gly Pro  
       100                 105                 110  
  
 Gly Gln Met Pro His Leu Ala Thr Thr Tyr Ala Ala Val Asn Ser Leu  
       115                 120                 125  
  
 Ile Thr Leu Gly Lys Pro Glu Ala Leu Ser Ser Ile Asn Arg Glu Lys  
       130                 135                 140  
  
 Leu Tyr Thr Phe Leu Leu Arg Met Lys Asp Ala Ser Gly Gly Phe Arg  
       145                 150                 155                 160  
  
 Met His Asp Gly Gly Glu Val Asp Val Arg Ala Cys Tyr Thr Ala Ile  
       165                 170                 175  
  
 Ser Val Ala Asn Ile Leu Asn Ile Val Asp Asp Glu Leu Ile His Gly  
       180                 185                 190  
  
 Val Gly Asn Tyr Ile Leu Ser Cys Gln Thr Tyr Glu Gly Gly Ile Ala  
       195                 200                 205

Gly Glu Pro Gly Ser Glu Ala His Gly Gly Tyr Thr Phe Cys Gly Leu  
 210 215 220  
 Ala Ala Met Ile Leu Ile Asn Glu Val Asp Arg Leu Asp Leu Pro Gly  
 225 230 235 240  
 Leu Ile Asp Trp Val Val Phe Arg Gln Gly Val Glu Gly Gly Phe Gln  
 245 250 255  
 Gly Arg Thr Asn Lys Leu Val Asp Gly Cys Tyr Ser Phe Trp Gln Gly  
 260 265 270  
 Ala Val Val Phe Leu Ile Gln Arg Leu Asn Leu Ile Val His Glu Gln  
 275 280 285  
 Leu Gly Leu Ser Asn Asp Leu Ser Thr Glu Ser Ala Asp Asp Ser Ser  
 290 295 300  
 Glu Ser Glu Leu Ser Asp Glu Glu Glu His Leu Glu Gly Ile Ser Ser  
 305 310 315 320  
 His Val Gln Asp Thr Phe Pro Leu Gly Gln Ala Gly Ala Cys Gln Glu  
 325 330 335  
 Asn Ala Ser His Ser Pro Lys Ile Ala Asp Thr Gly Tyr Glu Phe Ile  
 340 345 350  
 Asn Arg Pro Ile Ala Met Arg Pro Leu Phe Asp Ser Met Tyr Leu Gln  
 355 360 365  
 Gln Tyr Val Leu Leu Cys Ser Gln Ile Glu Val Gly Gly Phe Arg Asp  
 370 375 380  
 Lys Pro Gly Lys Gly Arg Asp Tyr Tyr His Thr Cys Tyr Cys Leu Ser  
 385 390 395 400  
 Gly Leu Ser Ile Ala Gln Tyr Ser Trp Thr Asp Glu Ala Asp Ser Thr  
 405 410 415  
 Pro Leu Pro Arg Asp Val Phe Gly Pro Tyr Ser Lys Cys Leu Leu Glu  
 420 425 430  
 Gln Val His Pro Leu Phe Asn Val Val Leu Asp Arg Tyr Tyr Glu Ala  
 435 440 445  
 Arg Glu Tyr Ser Gln Ala Cys Glu Thr Val Ser Pro Leu Ser Leu Ala  
 450 455 460  
 Pro Thr Phe Ser Glu Thr  
 465 470  
 <210> 22  
 <211> 419  
 <212> PRT  
 <213> Pisum sativum  
 <400> 22  
 Met Glu Ala Ser Thr Ala Ala Glu Thr Pro Thr Pro Thr Val Ser Gln  
 1 5 10 15  
 Arg Asp Gln Trp Ile Val Glu Ser Gln Val Phe His Ile Tyr Gln Leu

20

25

30

Phe	Ala	Asn	Ile	Pro	Pro	Asn	Ala	Gln	Ser	Ile	Ile	Arg	Pro	Trp	Leu
35															45
Cys	Tyr	Trp	Ile	Ile	His	Ser	Ile	Ala	Leu	Leu	Gly	Glu	Ser	Ile	Asp
50															60
Asp	Asp	Leu	Glu	Asp	Asn	Thr	Val	Asp	Phe	Leu	Asn	Arg	Cys	Gln	Asp
65															80
Pro	Asn	Gly	Gly	Tyr	Ala	Gly	Gly	Pro	Gly	Gln	Met	Pro	His	Leu	Ala
															85
85															90
Thr	Thr	Tyr	Ala	Ala	Val	Asn	Thr	Leu	Ile	Thr	Leu	Gly	Gly	Glu	Lys
100															110
105															
Ser	Leu	Ala	Ser	Ile	Asn	Arg	Asn	Lys	Leu	Tyr	Gly	Phe	Met	Arg	Arg
115															125
120															
Met	Lys	Gln	Pro	Asn	Gly	Gly	Phe	Arg	Met	His	Asp	Glu	Gly	Glu	Ile
130															140
135															
Asp	Val	Arg	Ala	Cys	Tyr	Thr	Ala	Ile	Ser	Val	Ala	Ser	Val	Leu	Asn
145															155
150															160
Ile	Leu	Asp	Asp	Glu	Leu	Ile	Lys	Asn	Val	Gly	Asp	Phe	Ile	Leu	Ser
															165
165															170
															175
Cys	Gln	Thr	Tyr	Glu	Gly	Gly	Leu	Ala	Gly	Glu	Pro	Gly	Ser	Glu	Ala
															180
180															185
															190
His	Gly	Gly	Tyr	Thr	Phe	Cys	Gly	Leu	Ala	Ala	Met	Ile	Leu	Ile	Gly
															195
195															200
															205
Glu	Val	Asn	Arg	Leu	Asp	Leu	Pro	Arg	Leu	Leu	Asp	Trp	Val	Val	Phe
															210
210															215
															220
Arg	Gln	Gly	Lys	Glu	Cys	Gly	Phe	Gln	Gly	Arg	Thr	Asn	Lys	Leu	Val
225															230
															235
															240
Asp	Gly	Cys	Tyr	Ser	Phe	Trp	Gln	Gly	Gly	Ala	Val	Ala	Leu	Leu	Gln
															245
245															250
															255
Arg	Leu	His	Ser	Ile	Ile	Asp	Glu	Gln	Met	Ala	Glu	Ala	Ser	Gln	Phe
															260
260															265
															270
Val	Thr	Val	Ser	Asp	Ala	Pro	Glu	Glu	Lys	Glu	Cys	Leu	Asp	Gly	Thr
															275
275															280
															285
Ser	Ser	His	Ala	Thr	Ser	His	Ile	Arg	His	Glu	Gly	Met	Asn	Glu	Ser
															290
290															295
															300
Cys	Ser	Ser	Asp	Val	Lys	Asn	Ile	Gly	Tyr	Asn	Phe	Ile	Ser	Glu	Trp
305															310
															315
															320
Arg	Gln	Ser	Glu	Pro	Leu	Phe	His	Ser	Ile	Ala	Leu	Gln	Gln	Tyr	Ile
															325
325															330
															335
Leu	Leu	Cys	Ser	Gln	Glu	Gln	Asp	Gly	Gly	Leu	Arg	Asp	Lys	Pro	Gly
															340
340															345
															350

Lys Arg Arg Asp His Tyr His Ser Cys Tyr Cys Leu Ser Gly Leu Ser  
     355                       360                       365  
  
 Leu Cys Gln Tyr Ser Trp Ser Lys Arg Pro Asp Ser Pro Pro Leu Pro  
     370                       375                       380  
  
 Lys Val Val Met Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His Pro  
     385                       390                       395                   400  
  
 Leu Phe Asn Val Val Leu Asp Arg Tyr Arg Glu Ala His Glu Phe Phe  
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 Ser Gln Leu  
  
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 <211> 419  
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 <213> Pisum sativum  
  
 <400> 23  
 Met Glu Ala Ser Thr Ala Ala Glu Thr Pro Thr Pro Thr Val Ser Gln  
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 Arg Asp Gln Trp Ile Val Glu Ser Gln Val Phe His Ile Tyr Gln Leu  
     20                       25                           30  
  
 Phe Ala Asn Ile Pro Pro Asn Ala Gln Ser Ile Ile Arg Pro Trp Leu  
     35                       40                           45  
  
 Cys Tyr Trp Ile Ile His Ser Ile Ala Leu Leu Gly Glu Ser Ile Asp  
     50                       55                           60  
  
 Asp Asp Leu Glu Asp Asn Thr Val Asp Phe Leu Asn Arg Cys Gln Asp  
     65                       70                           75                       80  
  
 Pro Asn Gly Gly Tyr Ala Gly Gly Pro Gly Gln Met Pro His Leu Ala  
     85                       90                           95  
  
 Thr Thr Tyr Ala Ala Val Asn Thr Leu Ile Thr Leu Gly Gly Glu Lys  
     100                       105                           110  
  
 Ser Leu Ala Ser Ile Asn Arg Asn Lys Leu Tyr Gly Phe Met Arg Arg  
     115                       120                           125  
  
 Met Lys Gln Pro Asn Gly Gly Phe Arg Met His Asp Glu Gly Glu Ile  
     130                       135                           140  
  
 Asp Val Arg Ala Cys Tyr Thr Ala Ile Ser Val Ala Ser Val Leu Asn  
     145                       150                           155                       160  
  
 Ile Leu Asp Asp Glu Leu Ile Lys Asn Val Gly Asp Phe Ile Leu Ser  
     165                       170                           175  
  
 Cys Gln Thr Tyr Glu Gly Gly Leu Ala Gly Glu Pro Gly Ser Glu Ala  
     180                       185                           190  
  
 His Gly Gly Tyr Thr Phe Cys Gly Leu Ala Ala Met Ile Leu Ile Gly  
     195                       200                           205

Glu Val Asn Arg Leu Asp Leu Pro Arg Leu Leu Asp Trp Val Val Phe  
210 215 220

Arg Gln Gly Lys Glu Cys Gly Phe Gln Gly Arg Thr Asn Lys Leu Val  
225 230 235 240

Asp Gly Cys Tyr Ser Phe Trp Gln Gly Gly Ala Val Ala Leu Leu Gln  
245 250 255

Arg Leu His Ser Ile Ile Asp Glu Gln Met Ala Glu Ala Ser Gln Phe  
260 265 270

Val Thr Val Ser Asp Ala Pro Glu Glu Lys Glu Cys Leu Asp Gly Thr  
275 280 285

Ser Ser His Ala Thr Ser His Ile Arg His Glu Gly Met Asn Glu Ser  
290 295 300

Cys Ser Ser Asp Val Lys Asn Ile Gly Tyr Asn Phe Ile Ser Glu Trp  
305 310 315 320

Arg Gln Ser Glu Pro Leu Phe His Ser Ile Ala Leu Gln Gln Tyr Ile  
325 330 335

Leu Leu Cys Ser Gln Glu Gln Asp Gly Gly Leu Arg Asp Lys Pro Gly  
340 345 350

Lys Arg Arg Asp His Tyr His Ser Cys Tyr Cys Leu Ser Gly Leu Ser  
355 360 365

Leu Cys Gln Tyr Ser Trp Ser Lys Arg Pro Asp Ser Pro Pro Leu Pro  
370 375 380

Lys Val Val Met Gly Pro Tyr Ser Asn Leu Leu Glu Pro Ile His Pro  
385 390 395 400

Leu Phe Asn Val Val Leu Asp Arg Tyr Arg Glu Ala His Glu Phe Phe  
405 410 415

Ser Gln Leu